UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,158	06/13/2006	Gerald Leminoux	283122US2XPCT	8408

22850 7590 10/22/2007		EXAMINER
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.		HUYNH, PHUONG
1940 DUKE STREET		
ALEXANDRIA, VA 22314	ART UNIT	PAPER NUMBER
	2857	

NOTIFICATION DATE	DELIVERY MODE
10/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/563,158	LEMINOUX ET AL.
	Examiner	Art Unit
	Phuong Huynh	2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 January 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>11-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>11-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>04 January 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-SB/08)
    Paper No(s)/Mail Date <u>01/04/2006</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Claim Objections

1.   Claim 19 is objected under 37 C.F.R. 1.75(i) because all the features in lines 2-4 cited here are not

separated by a line indentation.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, the preamble states " a method for estimating total mass of a motor vehicle by

a recursive least-squares algorithm, comprising..." However, the body of the claim consists of a

single step for calibrating the longitudinal acceleration of the vehicle and does not accomplish the

estimation of the total mass of a motor vehicle. In addition, it does not appear that there is any

reference to a recursive least-square algorithm in the body of the claim.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for

the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.   Claim 11- 20 are rejected under 35 U.S.C. 102(a) as being anticipated by Lingman et al.

(hereinafter "Lingman") (US Patent Application Pub. No. 2004/0167705).

Regaridng claim 11, Lingman discloses a method of estimating total mass of a motor vehicle, by a

recursive least-square algorithm, comprising:

calculating longitudinal acceleration of the vehicle based on Newton's Second Law of Motion, by

analysis of errors, by an acceleration variation due to errors comprising an error in variation of the

vehicle mass relative to a reference mass an error in inclination of the surface on which the vehicle

is traveling, and errors of a model the inclination being supplied by a slope sensor or by an

inclination-estimating mechanism [see Lingman: Abstract; Paragraphs [0007], [0011], [0020],

[0028], [0034], [0036], [0045] and [0094]].

Regarding claim 12, Lingman discloses data comprising a reinitialization instruction, vehicle speed,

rate of rotation of an engine, torque transmitted by the engine, detection of actuation of a clutch, detection

of actuation of brakes, and detection of cornering of the vehicle are processed to calculate the longitudinal

acceleration of the vehicle, a resultant of motive forces, aerodynamic forces and rolling forces, and an

equivalent mass due to inertial forces of transmission [see Lingman: Paragraphs [0030], [0037], [0045],

[0055], [0066], [0070] and [0092]].

Regarding claim 13, Lingman discloses processing the data is enabled when the data remains respectively in predetermined intervals of values that ensure validity of the model, the total mass of the vehicle is estimated by recursive least-square algorithm [see Lingman: Abstract; Paragraphs [0087]; an estimate of the total mass of the vehicle is supervised by providing a predetermined mass such that the recursive least-squares algorithm has not converged, by fixing the estimated mass when a predetermined convergence criterion has been reached [see Lingman: Paragraphs [0011], [0012]].

Regarding claim 14, Lingman discloses wherein a <u>loop</u> of the estimated mass is additionally processed, and the acceleration variation due to errors comprising the error in the variation of the vehicle mass relative to a reference mass, the error in the inclination of the surface on which the vehicle is traveling, and the errors of the model during the data processing is calculated, and an acceleration that a slope sensor would provide if such were present is estimated and used in a recursive least-square algorithm, the slope-sensor estimate of acceleration using the acceleration variation due to errors [see Lingman: Abstract; Paragraphs [0007], [0011], [0020], [0028], [0034], [0036], [0045] and [0094]]. In addition, Examiner reminds Applicant that "a loop of estimated mass" is duplicate part for multiple effects and this generally does not provide patentable weight to the claimed invention. See St. Regis Paper Co. v Bernis Co. 193 USPQ 8 (7th Cir. 1977).

Regarding claim 15, Lingman discloses the inclination is estimated based on the acceleration variation due to errors, and the recursive least-square algorithm depends on the inclination and has two modes, a flat mode when the inclination is situated in a predetermined interval of values corresponding the

a plane structure, and a slope mode in other cases [see Lingman: Paragraphs [0020], [0028], [0044], [0073], 0077]].

Regarding claim 16, Lingman discloses during the processing of the data, an acceleration that a slope sensor would provide is such were present is additionally estimated by the inclination of the surface on which the vehicle is additionally estimated by the inclination of the surface on which the vehicle is traveling, the inclination being provided by the inclination-estimating mechanism and the slope-sensor acceleration being used in the recursive least-square algorithm [see Lingman: Paragraphs [0028], [0055], [0087]].

Regarding claim 17, Lingman discloses an acceleration provided by a slope sensor being used in the recursive least square is additionally processed surface on which the vehicle is traveling is calculated from the acceleration provided me slope sensor and from the calculation of longitudinal acceleration of the vehicle, and the recursive least-squares algorithm depends on the inclination and has two modes, a flat mode when the inclination is situated in predetermined interval of values corresponding to a plane surface, and a slope mode in other cases [see Lingman: Paragraphs [0028], [0045], [0046], [0055], [0087]].

Regaridng claim 18, Lingman discloses the inclination of the surface on which the vehicle is traveling is calculated from the acceleration provided by the slope sensor and from the calculation of longitudinal acceleration of the vehicle [see Lingman: Paragraphs [0025], [0028], [0039]]; and the recursive least-squares algorithm depends on the inclination and has two modes, a fiat mode when the inclination is

situated in a predetermined interval of values corresponding to a plane surface, and a slope mode in other

cases [see Lingman: Paragraphs [0020], [0044] and [0045]].

Regarding claim 19, Lingman discloses a device for estimating total mass of a motor vehicle,

including wheel-speed sensors [19], an engine-torque sensor [36], a rate of rotation of an engine sensor

[36], a clutch pedal position sensor [17], a brake-pedal position sensor [Paragraph [0070]: lines 1-5], means

for detecting cornering of the vehicle [19], and an electronic control unit [26] to which the sensors are

connected, wherein the electronic control unit includes:

reinitialization means, means for estimating total mass of the vehicle by a recursive least-square

algorithm [see Lingman: Paragraphs [0097], [0099], [0100]], including calculating longitudinal

acceleration of the vehicle based on Newton's Second Law of Motion, by analysis of errors, by an

acceleration variation due to errors comprising an error in variation of he mass of the vehicle

relative to a reference mass, an error in inclination of the surface on which the vehicle is traveling,

and errors of a model; means for processing data transmitted by the sensors [see Lingman:

Abstract; Paragraphs [0006], [0007], [0011], [0020], [0028], [0034], [0036], [0045] and [0094]];

means for enabling the processing of the data when the data remain respectively in predetermined

intervals of values that ensure validity of the model; and supervising means for providing a default

mass as long as the algorithm has not converged, by fixing the estimated mass when a

predetermined convergence criterion has been reached [see Lingman: [0011], [0012]].

Regaridng claim 20, Lingman discloses a slope sensor configured to transmit a longitudinal

acceleration of the vehicle to the means [see Lingman: Paragraphs [0028], [0055] and [0094]].

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Huynh whose telephone number is 571-272-2718. The examiner can normally be reached on M-F: 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Huynh
Examiner
Art Unit 2857

PH
Oct 10, 2007

HAL WACHSMAN
PRIMARY EXAMINER